



LABORATORY

OF THE

INLAND REVENUE DEPARTMENT

OTTAWA, CANADA

BULLETIN No. 392

SAUSAGES



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SAUSAGES

OTTAWA, December 29, 1917.

J. U. VINCENT, Esq., K.C., B.A., L.Ph.,
Deputy Minister of Inland Revenue,

SIR,—I have the honour to hand you a report upon 123 samples of sausages, purchased variously throughout Canada by our inspectors. The order for collection was issued in August last, but inspectors were instructed to await special instructions from the analysts, so that samples might be dealt with promptly upon being received at the laboratories. This condition was necessary, on account of the readily perishable character of the article.

Departmental standards for sausages, as published in Circular G. 931, of October, 1910, require as follows:—

2. Sausage, sausage meat, is a comminuted meat from swine or neat cattle, or a mixture of such meats, either fresh, salted, pickled or smoked, with added salt and spices and with or without the addition of edible animal fats, cereals, blood and sugar, or subsequent smoking. It contains no larger amount of water than the meats from which it is prepared contain when in their fresh condition, and not more than ten (10) per cent of its weight of cereals; and if it bears a name descriptive of kind, composition or origin, it corresponds to such descriptive name. All animal tissues used as containers, such as casings, stomachs, etc., are clean and sound and impart to the contents no other substance than salt.

3. Blood sausage is sausage to which has been added clean fresh blood from neat cattle or swine in good health at the time of slaughter.

Nothing is said as regards the employment of dyes in sausages; but this matter is covered by an Order in Council of January 9, 1915 (published as Circular G. 1167), which requires that, so far as all except certain named classes of foods are concerned,

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"the presence of artificial colouring matter must be declared upon the label in easily legible type." A list of permitted dyes is also furnished in the circular referred to.

The difficulty of carrying out the provisions of G. 1167 in the case of sausages will be at once apparent. It might be possible to secure the proper labelling of the article by the large manufacturer; but, in selling at retail, as well as in the case of smaller makers of sausages, whose trade is purely local, the difficulty would be so great as to be practically insurmountable. At least, this is the claim of the trade.

Recognizing this fact, the Veterinary Director General has prohibited altogether the use of dyes in sausages manufactured in establishments under supervision of inspectors of the Department of Agriculture; and the regulations thus authorized have been faithfully carried out by inspected factories. There exist, however, a very large number of smaller factories, which, not doing an interprovincial or export trade, are not subject to supervision under the terms of the Meat and Canned Foods Act. Certain of these smaller factories have found it profitable to use dyes in their products, and in some localities a very considerable demand for sausages made with dyed meat is claimed to have been developed, to the injury of those manufacturers who are forbidden to employ dyed meats.

The collection herein reported was intended to include only the products of such factories as are not working under the inspection of the Department of Agriculture; and our inspectors were especially instructed to secure, for analysis, only sausages of the kind indicated. Most of the samples, as will be seen, are manufactured locally, and are made by the immediate vendor of the article. Out of the whole number (123) only four (4) samples are found to be made with dyed meats, one in Halifax, the other three in Ottawa. If this result may be taken to indicate the extent to which sausage meats are dyed in Canada, it must be held that this usage is very limited.

In four other instances, the casing of the sausage is dyed; but this does not constitute a violation of G. 1167 in Bologna sausage, where the casing is not eaten, and where the dye does not penetrate to the edible portion of the sausage.

I have, of necessity, adjudged the four cases above referred to, as adulterated under the Act; but in view of the recognized difficulty already mentioned of labelling sausages, I may be permitted to recommend leniency, without prejudice to further decisions of the kind. Should later investigation show that the dyeing of sausage meats has any considerable vogue, it may be advisable to suggest a means by which the public shall be properly informed of the presence of a dye other than the use of a label.

Another matter regarding which complaint has been made, is the introduction of excess of cereals into sausage, with a view to reducing the cost and of enabling a higher water content to be held than would otherwise be possible.

Our standards permit 10 per cent by weight of cereal to be present, and this limit is not reached by any of the samples now reported. I am inclined to believe that our limit for cereals is quite unnecessarily high. In some States of the American Union the limit permissible is fixed at two (2) per cent; and the fact that only 26 samples out of 123 samples are found to contain above 5 per cent of starch would seem to indicate that our present limit is excessive.

It is usually assumed that cereals are employed for the purpose of enabling a large amount of water to be held by the sausage. There is nothing in the results herewith furnished which could justify such assumption in the samples analyzed. The highest water content is found in samples containing very little cereal; in some cases less than one per cent. and conversely, samples with a high cereal content are found to contain very reasonable water percentage.

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Moisture in Sausages.—This is required to be present in no larger amount than the meats from which they are prepared contain when in their fresh condition. It becomes important, in this connection, to ascertain and fix legal limits for this amount. The following data are available:—

Quoted from "Food Inspection, etc., A. E. Leach, 2nd Edn., pp. 213 to 216. The tables are calculated from experimental work by Atwater:—

	Beef.	Veal.	Mutton.	Lamb.	Pork.
Chuck—					
Lean.....	71·3	76·3	64·7		
Medium.....	68·3	73·3	50·9	56·2	
Fat.....	62·3		40·6		
Ribs—					
Lean.....	66·0	72·7			
Medium.....	55·5	60·9			
Fat.....	48·5				
Loin—					
Lean.....	67·0	73·3			
Medium.....	60·6	69·0	50·2	53·1	60·3
Fat.....	54·7	61·6	43·3		41·8
Rump—					
Lean.....	65·7				
Medium.....	56·7				
Fat.....	47·1				
Round—					
Lean.....	70·0				
Medium.....	65·5				
Fat.....	60·4				
Leg—					
Lean.....		73·5	67·4		
Medium.....		70·0	62·8	63·9	
Flank—					
Medium.....			46·2		
Shoulder.....					51·2

König, quoted by Allen, "Com. Org. Analysis," Vol. VIII, 4th Edn., p. 262, gives the following percentages, which refer to the whole animal:—

Ox—very fat.....	55·42
" medium.....	73·25
" lean.....	76·71
Cow—fat.....	70·98
" lean.....	76·35
Mutton—very fat.....	47·91
" medium.....	75·99
Horse flesh.....	74·27

The following are supplied by the authors named, and are quoted from Allen v.s.:—

Average ox flesh.....	76·7	(Munk's Physiologie).
" calf's flesh.....	75·6	" "
" pig's flesh.....	72·6	" "
" horse's flesh.....	74·3	" "
" fowl's flesh.....	70·8	" "
Mutton chop (bonemeal).....	44·1	(Church).
Calves' liver.....	72·3	(Payen).
Sheep's kidneys.....	73·2	"

It will be noted that pig's flesh (pork) contains decidedly less water than other flesh, and it is chiefly from pork that ordinary sausages are made. Taking this into account, it would appear that 70 per cent of water is a reasonable maximum amount of water which may be tolerated in the flesh content of sausage. The addition of cereals, up to 10 per cent, is permitted, and these usually contain no more than

about 10 per cent of water. As a matter of fact, the samples (123 in number) herein reported contain decidedly less than 70 per cent of water, and the following synopsis is of interest and importance:—

Samples containing over 65 per cent water.	7
" " 60 to 65 per cent water.	19
" " 55 to 60 per cent water.	34
" " 50 to 55 per cent water.	23
" " less than 50 per cent water.	30
Total.	123

The great majority of samples of this collection shows less than 60 per cent water; and I am of opinion that a limit of 60 per cent water in sausage would not be unreasonable where the sausage was made from meats containing a proper proportion of fat. In the case of sausage described and sold under a name which implied the use of lean meats, a somewhat higher percentage of water might be tolerated.

It is impossible to overlook the extremely varied prices at which sausages are sold at retail. The following tabulated statement illustrates this, and at the same time gives an idea of the relation existing between actual value as a food and price per pound.

Sausages—Cost in Proportion to Nutritive Material.

Number of samples examined.	Retail price per lb. as sold.	Average water content.	Average solids.	Average cost per lb. of solid matter.	Arranged in order of low cost for equal nutriment
	cts.			cts.	
18	30	52.93	47.07	63.8	11
6	28	51.52	48.48	57.7	9
3	27	45.65	54.35	49.7	6
14	25	56.82	43.18	57.8	10
2	24	47.21	52.79	45.3	4
3	23	53.85	46.15	49.8	7
3	22	57.11	42.89	51.3	8
45	20	56.96	44.05	45.4	5
19	17	55.54	44.46	38.2	3
7	15	56.32	44.68	33.5	2
3	13	49.45	50.55	25.7	1
123					

Doubtless the high-priced sausages owe their sale in many cases to public confidence in the manufacturer, and to a claim for the use in their manufacture of selected material only. They are probably sold locally, or within restricted areas only. In some cases it may be that a special seasoning, or other individual character, may give them advantage in the market; but as regards nutritive value, the samples now reported must be judged entirely upon their content of dry material.

I would respectfully advise publication of this report as Bulletin No. 392.

I have the honour to be, sir,

Your obedient servant,

A. MCGILL,
Chief Analyst.

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ADDENDUM.

22nd January, 1918.

In my report, as above, it was shown that only four samples of sausages, out of a total of 123 samples, contained dyed meat. I have learned since writing this report, that the markets in which dyed sausages are chiefly sold, are quite restricted; and as the District of Montreal was not represented in the collection, I have caused a special inspection of this District to be made. The results of examination of 41 samples purchased by our inspectors in Montreal are given in Table II.

While the moisture and starch percentages found in these samples indicate nothing that requires special comment, it will be seen that 20 samples (forming 70 per cent of the collection) contain dyes. It is thus evident that the District of Montreal is one of the areas in which the dyeing of sausage meats is noteworthy.

In all these instances the character of the meats presented was satisfactory in the sense that these were sound and wholesome. The necessary inference is, that the demand for a coloured sausage is consequent upon conditions which may be regarded as abnormal, and more or less local. It may be that the foreign population of this city (Montreal) proportionably larger than in the country as a whole, explains the matter. However this may be, it is quite apparent that some means of declaration of added colour must be devised and your Advisory Board will take this matter into consideration with a view to making recommendations.

A. MCGILL,
Chief Analyst.

BULLETIN No. 392—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.

DISTRICT OF NOVA SCOTIA—

Oct. 22	Sausage . . .	76746	Jas. A. Leaman, Halifax	1	lb.	25	Vendor
" 22	" . . .	76747	" " "	1	lb.	12	"
" 22	" . . .	76748	F. S. Short, Halifax	1	"	28	Davis & Fraser, Mfr.
" 22	" . . .	76749	Bentley & Layton, Ltd., Halifax	1	"	28	Vendors
" 22	" . . .	76750	" "	1	"	20	"
" 22	" . . .	76751	Robt. McLeod & Co., Halifax	1	"	24	"
" 22	" . . .	76752	Thos. Spry, Halifax	1	"	28	"
" 22	" . . .	76753	J. H. Eminett, Halifax	1	"	18	"
" 22	" . . .	76754	" "	1	"	20	"
" 22	" . . .	76755	Davis & Fraser, Halifax	1	"	23	"

DISTRICT OF NEW BRUNSWICK—

Oct. 23	Sausages . . .	78191	John Hopkins, St. John, N.B.	1	lb.	25	Vendor
" 23	" . . .	78192	" " "	1½	"	38	"
" 24	" . . .	78193	O'Neil Bros., St. John, N.B. . .	1	"	28	"
" 24	" . . .	78194	Thos. Dean, St. John, N.B. . .	1	"	28	"
" 25	" . . .	78195	D. J. O'Neill & Co., St. John, N.B. . .	2	lbs.	50	"
" 25	" . . .	78196	G. B. Taylor, St. John, N.B. . .	2	"	44	"
" 25	" . . .	78197	Slipp & Flewelling, St. John, N.B. . .	2	"	54	"
" 26	" . . .	78198	B. F. Hamilton & Co., St. John, N.B. . .	2	"	44	"
" 26	" . . .	78199	S. E. Rice, St. John, N.B. . .	2	"	48	"
" 26	" . . .	78200	Lilley & Co., St. John, N.B. . .	2	"	40	"

DISTRICT OF QUEBEC CITY—

Oct. 29	Sausages . . .	70754	Geo. Couillard, 430 St. Joseph, Quebec.	2	lbs.	50	Vendor
" 29	" . . .	70755	Oscar Coté, 39 St. Anselme, Quebec.	2	"	40	"
" 29	" . . .	70756	Victor Drolet, 813 St. Valier, Quebec.	2	"	40	"
" 29	" . . .	70757	L. G. Ruthman, 757 St. Valier, Quebec.	2	"	41	"
" 29	" . . .	70758	Sylvain Frères, 161 Dorchester, Quebec.	2	"	36	"

No. 392—

SAUSAGES.

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SCOTIA—

Inspector's Report. (Is not an expression of opinion.)	Results of Analysis.				No. of Sample	Remarks and Opinion of the Chief Analyst.
	Moisture.	Starch.	Aniline Dyes.	Condition.		

R. J. WAUGH, INSPECTOR.

	p.e.	p.e.				
Link	52.38	2.45	None.....	Good.....	76746	
Bologna.....	61.00	2.70	Present in casing only.	".....	76747	
Link	49.68	0.15	None.....	".....	76748	
"	48.46	2.70	".....	".....	76749	
Bologna.....	63.80	4.15	Present in casing only.	".....	76750	
Pork Link.....	51.78	0.20	None.....	".....	76751	
"	46.96	2.30	".....	".....	76752	
Frankfort.....	60.28	8.25	Present....	".....	76753	Dyed. Casing only.
Bologna	64.40	6.85	Present in casing only.	".....	76754	
Pork and Beef.....	51.92	0.20	None.....	".....	76755	

JOHN C. FERGUSON, INSPECTOR.

String Pork and Beef.	55.84	8.32	None.....	Good.....	78191	
Bologna.....	58.04	9.33	Present in casing only.	".....	78192	
Pork String.....	57.00	0.67	None....	".....	78193	
Pork and Beef	51.46	6.19	".....	".....	78194	
String.....	48.62	0.55	".....	".....	78195	
"	63.10	3.78	".....	".....	78196	
"	57.20	2.39	".....	".....	78197	
"	47.50	1.99	".....	".....	78198	
"	42.64	4.41	Doubtful...	".....	78199	
"	64.16	5.85	None.....	".....	78200	

F. X. W. E. BELAND, INSPECTOR.

	56.22	4.56	None.....	Good.....	70754	
	63.88	.....	".....	".....	70755	
	59.02	0.64	".....	".....	70756	
	51.92	8.55	".....	Fair.....	70757	
	66.76	2.92	".....	Good.....	70758	

BULLETIN No. 392—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.

DISTRICT OF QUEBEC CITY—

1917.							
Oct. 29	Sausages...	70759	Jos. Couillard, 411 St. Joseph, Quebec.	2 lbs.	60	Vendor.....	
" 39	"	70760	L. Baller & Son, 98 Rue du Pont, Quebec.	2 "	50	"	
" 29	"	70761	J. Lepine, 142 Rue du Roi, Quebec.	2 "	40	"	
" 29	"	70762	L. S. Rhéaume, 9½ Rue du Pont, Quebec.	2 "	40	"	
" 29	"	70763	J. Dechne, 26 Dorchester, Quebec.	2 "	40	"	

DISTRICT OF OTTAWA--

Oct.	20	Sausages...	80431	J. J. Henderson & Sons, Brockville.	2 lbs.	40	Vendors	
" 20	"	80432	Fredd A. Stagg, Brockville....	1½ "	25	Vendor..		
" 20	"	80433	Jos. Fitzpatrick, "	2 "	36	"		
" 22	"	80435	B. Slattery, York St., Ottawa	1½ "	23	"		
" 22	"	80436	Nap. Lachance, Byward Market, Ottawa.	1½ "	25	"		
" 22	"	80437	L. Gravel, Byward Market, Ottawa.	1½ "	30	"		
" 22	"	80438	O. Leclair, Byward Market, Ottawa.	1½ "	33	"		
" 22	"	80439	Edmund Robillard, Byward Market, Ottawa.	1 "	25	"		
" 22	"	80440	A. J. Smith, 276 Bank St., Ottawa.	1½ "	27	"		
" 22	"	80441	McDonald & Hyde, 831 Bank St., Ottawa.	1½ "	30	Vendors..		
Nov.	2	"	80463	S. R. Smith, 610 Somerset St., Ottawa.	1½ "	23	Vendor..	
" 2	"	80464	W. Lintel, 692 Somerset St., Ottawa.	1½ "	23	"		
" 2	"	80465	P. McKeown, 797 Somerset St., Ottawa.	1½ "	27	"		
" 2	"	80466	R. H. Aubrey, 45 York St., Ottawa.	1½ "	30	"		
" 2	"	80467	O. Sauve, Dalhousie St. Ottawa	1½ "	35	"		
" 13	"	80495	Chas. Glover, Preston St. "	1½ "	25	"		
" 13	"	80496	T. O. Longchamps, 210 Preston St., Ottawa.	1½ "	30	"		
" 13	"	80497	L. Renaud, 286 Preston St., Ottawa.	1½ "	23	Vendor..		
" 13	"	80498	E. & J. Gougeon, 175 Rochester St., Ottawa.	1½ "	30	Vendors		
" 20	"	80503	E. F. St. James, 183 Rideau St., Ottawa.	1½ "	30	Vendor..		
" 20	"	80504	P. Nagle, 231 Rideau St. Ottawa.	1½ "	25	"		
" 20	"	80506	F. F. O'Malley, 491 Rideau St., Ottawa.	1½ "	30	"		

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SAUSAGES.

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Inspector's Report. (Is not an expression of opinion.)	Results of Analysis.				No. of Sample.	Remarks and Opinion of the Chief Analyst.
	Moisture.	Starch.	Aniline Dyes.	Condition.		

concluded.

	p. c.	p. c.				
	49·18	Trace	None.	Good.	70759	
	54·36	1·86	"	"	70760	
	49·20	.....	" . . . . .	Fair.	70761	
	57·60	5·92	"	Good.	70762	
	50·56	3·87	Doubtful. .	"	70763	

TTAWA--

J. A. RICKY, INSPECTOR.

	46·78	5·87	None.	Good.	80431	
	42·52	7·00	"	"	80432	
	55·79	5·92	"	"	80433	
	61·77	3·60	"	"	80435	
	62·22	3·28	"	"	80436	
	54·40	4·00	"	"	80437	
	60·72	2·96	"	"	80438	
	56·26	4·48	"	"	80439	
	50·47	6·24	"	"	80440	
	56·11	4·24	"	"	80441	
	49·78	5·04	"	"	80463	
	57·17	8·80	"	"	80464	
	53·90	7·20	"	"	80465	
	53·68	4·88	"	"	80466	
	53·31	2·64	"	"	80467	
	51·02	None.	"	"	80495	
	62·07	5·68	Present.	"	80496	Dyed. Adulterated under the act.
	46·70	4·00	"	"	80497	Dyed. Adulterated under the act.
	57·00	2·80	None.	"	80498	
	55·24	2·00	"	"	80503	
	58·68	3·20	"	"	80504	
	59·64	2·40	"	"	80505	

BULLETIN No. 392--

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manu- facturer or Furnisher as given by the Vendor.	
				Quantity	Cents.	Manufacturer.	Furnisher.

DISTRICT OF OTTAWA -

1917.							
Nov. 20	Sausages . . .	80506	J. F. Boyle, 485 St. Patrick St., Ottawa.	1½ lb.	30	Vendor	
" 20	" . . .	80507	Jos. Gravelle, King and St. Andrew Sts. Ottawa.	1½ "	35	Leclair	
" 23	" . . .	80513	Geo. H. Stoate, 1117 Bank St. Ottawa.	1½ "	30	Vendor	
" 23	" . . .	80514	Thos. Sheehan, 465 Gladstone Ave. Ottawa.	1½ "	30	"	
" 23	" . . .	80515	R. McGregor Ltd., 225 Bank St., Ottawa	1½ "	45	Vendors	
" 23	" . . .	80516	Hunt's Dairy, 151 Bank St., Ottawa.	1½ "	45	Vendor	
" 23	" . . .	80517	Alph. Julien, 265 Dalhousie St., Ottawa.	1½ "	30	"	
" 23	" . . .	80518	Alex. Daudelin, Church and Dalhousie Sts., Ottawa.	1½ "	30	"	

DISTRICT OF MANITOBA -

Oct. 24	Sausages . . .	79608	Burk & Andrick, Portage la Prairie.	1½ lb.	30	Vendors	
" 24	" . . .	79609	Joseph Donaldson, 813 Rosser ave., Brandon.	1½ "	30	"	
" 24	" . . .	79610	W. J. Burchill, 908 Rosser ave., Brandon.	1½ "	30	"	
" 24	" . . .	79611	Dennet & Barter, 608 Rosser ave., Brandon.	1½ "	30	"	
" 26	" . . .	79612	H. R. Elliott, 861 Portage ave., Winnipeg.	3 "	60	"	Fraser's, Williams ave., Winnipeg.
" 26	" . . .	79613	Allward Bros., Portage and Brooklin, Winnipeg.	1½ "	30	"	"
" 26	" . . .	79614	John Enright, 306 Portage ave., Winnipeg.	1½ "	45	Vendor	
" 26	" . . .	79615	" " " 1½ "	45	"		
" 26	" . . .	79616	St. John's Meat Market, 1304 Main st., Winnipeg.	1½ "	45	"	
" 26	" . . .	79617	The Ideal Meat Market, 1318 Main st., Winnipeg.	1½ "	35	"	

DISTRICT OF SOUTHERN SASKATCHEWAN

Oct. 29	Sausages . . .	76950	Kent & Brown Co., Ltd., Moose Jaw.	1½ lb.	20	Vendor	
" 29	" . . .	76951	Western Meat Market, Moose Jaw.	1½ "	45	"	
" 29	" . . .	76952	Alex. Robertson, Moose Jaw . . .	1½ "	25	"	
" 29	" . . .	76953	The Hub Meat Market, Moose Jaw.	1½ "	25	"	
" 29	" . . .	76954	North Hill Meat Market, Moose Jaw.	1½ "	40	"	
" 30	" . . .	76955	Aird's Meat Market, Regina . . .	1½ "	42	"	

SAUSAGES.

Inspector's Report. (Is not an expression of opinion.)	Results of Analysis.				No. of Sample.	Remarks, and Opinions of the Chief Analyst.
	Moisture.	Starch.	Aniline Dyes.	Condit.		

Continued.

	p. c.	p. c.				
.....	55.56	3.36	None.....	Good.....	80506	
.....	62.66	2.00	Present....	".....	80507	Dyed. Adulterated un- der the Act.
.....	50.39	2.88	None.....	".....	80513	
.....	59.63	1.08	".....	".....	80514	
.....	53.73	4.80	".....	".....	80515	
.....	52.63	4.24	".....	".....	80516	
.....	55.64	6.00	".....	".....	80517	
.....	56.36	7.28	".....	".....	80518	

J. B. COSGROVE, INSPECTOR.

Pork	49.76	1.31	None.....	Good.....	79608
Pork and beef.....	53.78	1.62	".....	".....	79609
.....	55.01	5.97	".....	".....	79610
Pork, beef and veal...	56.97	3.51	".....	".....	79611
Friser's Tomato Brand mixed meats.	50.75	2.43	".....	".....	79612
.....	52.98	5.40	".....	".....	79613
Pork, beef and potato flour.	50.95	2.43	".....	".....	79614
Mixed meat and potato flour.	50.33	3.51	".....	".....	79615
Pork, beef and sausage flour.	49.56	5.11	".....	".....	79616
Pork, veal and sausage flour.	46.97	4.00	".....	".....	79617

L. H. HALL, INSPECTOR.

Pork and beef.....	50.45	2.27	None.....	Good.....	76950
Pork	60.56	3.37	".....	".....	76951
Beef.....	48.35	3.37	".....	".....	76952
Beef and pork.....	59.37	1.69	".....	".....	76953
Pork	50.73	2.43	".....	".....	76954
Pork and beef.....	55.58	1.98	".....	".....	76955

BULLETIN No. 392—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufac- turer or Furnisher, as given by the Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.

DISTRICT OF SOUTHERN SASKATCHEWAN—

Oct.	30	Sausages.	76956	M. Wall, Regina.....	1½ lb.	25	Vendor.....	.....
"	30	"	76957	A. B. Sparkes, Regina.....	1½ "	25	"	.....
"	30	"	76958	Rex Grocery, Regina.....	1½ "	25	"	.....
"	30	"	76959	John Ferguson & Sons, Regina.	1½ "	20	"	.....

DISTRICT OF NORTHERN SASKATCHEWAN—

Nov.	3	Sausages.	78566	Fernie Bros., Ltd., North Battleford.	1½ lbs.	45	Vendor.....	.....
"	3	"	78567	Fernie Bros., Ltd., North Battleford.	1½ "	40	"	.....
"	3	"	78568	Parker & Co., North Battleford.	1½ "	30	"	.....
"	7	"	78572	A. Pare, Prince Albert.....	1½ "	30	"	.....
"	7	"	78573	Wm. McKay, Prince Albert.....	1½ "	30	"	.....
"	7	"	78574	Sinclair & Co., Prince Albert.....	1½ "	30	"	.....
"	9	"	78578	Sterling Meat Co., Saskatoon.....	1½ "	45	"	.....
"	9	"	78579	" " " " "	1½ "	25	"	.....
"	9	"	78580	Central Meat Co.,	1½ "	25	"	.....
"	9	"	78581	Vassar Bros.,	1½ "	25	"	.....

DISTRICT OF ALBERTA—

Oct.	31	Sausages.	52857	Edmonton Meat Co., Ltd., 10319 97 St., Edmonton.	1½ lbs.	30	Vendors .....	.....
"	31	"	52858	Fudge Cut Rate Meat Market, 10245 14 St., Edmonton.	1½ "	25	"	.....
"	31	"	52859	Public Benefit Meat Market, 10106 Jasper Ave., Edmonton.	1½ "	30	"	.....
Nov.	2	"	52860	Western Meat Market, Medicine Hat.	1½ "	25	"	.....
"	2	"	52861	Robt. Mitchell & Sons, Medicine Hat.	1½ "	30	"	.....
"	2	"	52862	Brown's Ltd., Medicine Hat.....	1½ "	25	"	.....
"	3	"	52863	Independent Meat Market, Lethbridge.	1½ "	30	"	.....
"	3	"	52864	Delaney's Ltd., Lethbridge.....	1½ "	45	"	.....
"	3	"	52865	P. Burns & Co., Ltd., Lethbridge.	1½ "	30	"	.....
"	6	"	52866	Pepper & Co., Calgary.....	1½ "	45	"	.....
"	6	"	52867	Chas. Taylor, New Market, Calgary.	1½ "	25	Vendor .....	.....

SAUSAGES.

f Manufact-
as given
or.

Furnisher.

HEWAN—

HEWAN—

LIBERTA—

Inspector's Report. (Is not an expression of opinion.)	Results of Analysis.				No. of Sample.	Remarks and Opinion of the Chief Analyst.
	Moisture.	Starch.	Aniline Dyes.	Condition.		

Concluded.

Beef.....	p. c. 52.09	p. c. 4.81	None.....	Good.....	76966	
".....	62.56	4.72	".....	".....	76957	
Beef and pork.....	61.10	3.42	".....	".....	76958	
".....	48.44	7.50	".....	".....	76959	

L. H. HALL, INSPFCTOR.

Pork.....	47.92	3.75	None.....	Good.....	78565	
Beef and pork.....	36.04	3.28	".....	".....	78567	
".....	49.18	1.53	".....	".....	78568	
".....	49.27	3.75	".....	".....	78572	
".....	50.22	0.95	".....	".....	78573	
".....	49.83	5.87	".....	".....	78574	
Pork.....	55.41	2.32	".....	".....	78578	
Beef and pork.....	58.04	2.16	".....	".....	78579	
".....	57.04	3.92	".....	".....	78580	
".....	55.58	1.61	".....	".....	78581	

A. W. R. MARKLEY, INSPECTOR.

Beef and pork.....	60.74	1.53	None.....	Good.....	52857	
Pork and beef.....	56.11	3.91	".....	".....	52858	
Beef and pork.....	49.90	3.43	".....	".....	52859	
Pork and beef.....	50.02	1.69	".....	".....	52860	
".....	52.65	0.89	".....	".....	52861	
".....	54.98	3.43	".....	".....	52862	
Beef and pork..... Contains XXX Pre- servative.	46.23	2.47	".....	".....	52863	
Pork.....	58.16	1.05	".....	".....	52864	
Beef and pork.....	58.58	2.24	".....	".....	52865	
Pork.....	57.88	2.63	".....	".....	52866	
Pork and beef.....	51.49	3.10	".....	".....	52867	

BULLETIN No. 392—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Quantity.	Name and Address of Manufacturer or Furnisher as given by the Vendor.	
					Cents.	Manufacturer.

DISTRICT OF ROCKY MOUNTAINS—

1917.							
Nov. 10	Cambridge Sausages.	68555	P. Burns & Co., Fernie, B.C.	2 lbs.	50	Vendors.....	
" 15	Pork Sausages.	68556	" " " " "	2 "	60	"	

DISTRICT OF VANCOUVER—

Nov.	8	Sausage	76196	Elliott Market, 151 Hastings St. E., Vancouver.	1 lb.	20	Vendors	
"	8	"	76197	Powell's Market, 58 Hastings St. E., Vancouver.	1 "	30	Vancouver Prince Rupert Meat Co., Vancouver.	
"	8	"	76198	Central Market, 32 Hastings St. E., Vancouver.	1 "	30	Vendors	
"	8	"	76199	Slater's Market, 830 Granville St., Vancouver.	1 "	20	"	
"	8	"	76200	Stewart's Market, 1077 Granville St., Vancouver.	1 "	30	"	
"	8	"	76201	B. J. Harding, 1162½ Granville St., Vancouver.	1 "	25	P. Burns & Co., Vancouver.	
"	8	"	76202	City Meat Market, 714 Davie St., Vancouver.	1 "	30	"	
"	8	"	76203	London Meat Market No. 2, 2101 Granville St., Vancouver.	1 "	25	Vendors	
"	8	"	76204	Main Market, 2233 Granville St., Vancouver.	1 "	30	Swift Can. Co., Ltd.	
"	8	"	76206	R. Black, 1001 Broadway W., Vancouver.	1 "	25	Vendors	

DISTRICT OF VICTORIA—

Oct.	22	Sausages....	76101	Lawrence, Goodacre & Sons, 1327 Govt. St., Victoria.	1 lb.	30	Vendors.....	
"	22	"	76102	New England Meat Market, 1308 Govt. St., Victoria.	1 "	20	"	
"	22	"	76103	" " " " "	1 "	20	"	
"	22	"	76104	J. Ringshaw, Yates and Broad Sts., Victoria.	1 "	20	"	
"	22	"	76105	Dominion Meat Market, Oak Bay Junction, Victoria.	1 "	25	"	
"	22	"	76106	" " " " "	1 "	25	"	
"	22	"	76107	Central Meat Market, 707 Pandora St., Victoria.	1 "	20	P. Burns & Co.....	
"	22	"	76108	Cedar Hillside Meat Market, 1406 Hillside Ave., Victoria.	1 "	20	Vendors	
"	22	"	76109	Taylor Market, 1005 Hillside Ave., Victoria.	1 "	15	"	
Nov.	2	"	76110	E. Quinnell & Sons, Nanaimo, B.C.	1 "	25	"	

SAUSAGES.

Inspector's Report. (Is not an expression of opinion.)	Results of Analysis.				No. of Sample.	Remarks and Opinion of the Chief Analyst.
	Moisture.	Starch.	Aniline Dyes.	Condition		

THOS. PARKER, INSPECTOR.

	p. c.	p. c.				
Pork and beef	67.31	1.02	None. ....	....	68555	
Beef and pork	65.64	2.07	" ....	....	68556	

G. G. ARMYTAGE, INSPECTOR.

Beef	55.99	3.73	None	Good.	76196	
Pork	43.84	0.44	"	"	76197	
.....	45.82	1.21	"	"	76198	
Beef	54.99	0.56	"	"	76199	
Pork	46.25	0.90	"	"	76200	
Beef and pork	55.47	.....	" ....	" ....	76201	
Pork	44.06	.....	" ....	" ....	76202	
Beef	48.45	1.33	"	"	76203	
Pork	59.45	6.94	"	"	76204	
.....	67.15	.....	" ....	" ....	76205	

G. G. ARMYTAGE, ACTING INSPECTOR.

.....	61.39	4.95	None.	Good.	76101	
.....	69.26	0.63	"	"	76102	
.....	57.92	0.83	"	"	76103	
.....	63.78	7.17	"	"	76104	
.....	48.81	2.66	"	"	76105	
.....	64.83	2.58	"	"	76106	
.....	65.24	2.55	"	"	76107	
.....	51.28	7.68	"	"	76108	
.....	52.15	6.01	"	"	76109	
.....	52.70	2.78	"	"	76110	

BULLETIN No. 392—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	
				Quantity.	Gents.	Manufacturer.	Furnisher.

DISTRICT OF MONTREAL—

1918.							
Jan. 3	Sausages....	79341	E. J. Hammill, 369 Bleury St., Montreal.	1½ lb.	18	Noe Bourassa, Montreal.	.....
" 4	"	79342	M. Tardiman, 1025 St. Lawrence Boul., Montreal.	1½ "	49	Swift Canadian Co.	.....
" 4	"	79343	Lamb's Market, Ltd., 328 University St., Montreal.	1½ "	49	Vendor	.....
" 4	"	79344	Masterman Pack. & Provision Co., Notre Dame St. W., Montreal.	1½ "	23	"	.....
" 4	"	79345	" " " 1½ "	42	"	.....
" 4	"	79346	Geo. McGarry & Co., St. Paul St. W., Montreal.	1½ "	42	"	.....
" 4	"	79347	Donat B. Jarry, Bonsecour Market, Montreal.	1½ "	30	"	.....
" 4	"	79348	M. Pesner & Sons, Bonsecour Market, Montreal.	1½ "	23	M. Deschamps, Montreal.	.....
" 4	"	79349	Noe Bourassa, Bonsecour Market, Montreal.	1½ "	45	Vendor	.....
" 4	"	79350	" " " 1½ "	27	"	.....
" 7	"	79351	S. L. Contant, 500 Marie Anne E., Montreal.	1½ "	20	"	.....
" 7	"	79352	R. Rivet, 111 De Laroche St., Montreal.	1½ "	27	"	.....
" 7	"	79353	" " " 1½ "	39	Dionne Co.	.....
" 7	"	79354	Swift Canadian Co., Ltd., 500 Craig St. E., Montreal.	1½ "	Nil.	Vendors	.....
" 7	"	79355	" " " 1½ "	"	"	"	.....
" 7	"	79356	J. B. Deschamps, 79 Panet St., Montreal.	1½ "	27	"	.....
" 7	"	79357	Salsaison Canadien, 163a Visitation St., Montreal.	1½ "	20	"	.....
" 7	"	79358	J. B. Belanger, 807 Dorchester E., Montreal.	1½ "	27	"	.....
" 7	"	79359	D. Desrosiers, 660 St. Catherine St. E., Montreal.	1½ "	42	McGarry Co	.....
" 7	"	79360	T. Quintal, 1080 St Catherine St. E., Montreal.	1½ "	38	"	.....
" 9	"	79361	Kavanagh Produce Co., Bleury St., Montreal.	1½ "	48	W. C. Ness, Montreal.	.....
" 9	"	79362	" " " 1½ "	30	S. L. Contant, Montreal.	.....
" 9	"	79363	F. Latromboise, St. Antoine Market, Montreal.	1½ "	30	Vendor	.....
" 9	"	79364	Wm. Burns, 1029 St. James St. W., Montreal.	1½ "	27	Vendor	.....
" 9	"	79365	Joseph Chatrand, 1450 St. James St. W., Montreal.	1½ "	27	"	.....
" 9	"	79366	A. Theoret, 61 Quesnel St., Montreal.	1½ "	28	"	.....
" 9	"	79367	A. Fortier, 1460 St. James St. W., Montreal.	1½ "	24	"	.....
" 9	"	79368	I. O. Labrecque, 959 Notre Dame St. W., Montreal.	1½ "	26	"	.....
" 9	"	79370	A. Larose, St. Antoine Market, Montreal.	1½ "	30	Masterman P. & P. Co., Montreal.	.....

SAUSAGES.—TABLE II.

Inspector's Report. (Is not an expression of opinion.)	Results of Analysis.				No. of Sample.	Remarks and Opinion of the Chief Analyst.
	Moisture.	Starch.	Aniline Dye.	Condition.		

J. J. COSTIGAN, INSPECTOR.

	p. c.	p. c.				
	55·24	2·96	Present....	Good.....	79341	Dyed. Adulterated under the Act.
	61·44	0·64	None....	".....	79342	
	56·77	4·96	Present....	".....	79343	Dyed. Adulterated under the Act.
Mixed sausages....	62·99	2·96	".....	".....	79344	" "
Pork	54·94	2·24	".....	".....	79345	" "
	58·84	3·44	None....	".....	79346	
	64·81	4·40	".....	".....	79347	
	54·48	4·16	Present....	".....	79348	Dyed. Adulterated under the Act.
Pork sausages....	57·67	3·36	".....	".....	79349	" "
Beef and pork	62·90	4·24	".....	".....	79350	" "
	60·83	3·44	".....	".....	79351	" "
	55·14	3·44	".....	".....	79352	" "
	56·20	4·24	".....	".....	79353	" "
Pure pork	49·65	1·76	None....	".....	79354	
Special	63·44	4·24	Present....	".....	79355	Dyed. Adulterated under the Act.
	54·91	5·44	".....	".....	79356	" "
	58·97	6·24	".....	".....	79357	" "
	54·38	3·04	None....	".....	79358	
	53·18	2·64	".....	".....	79359	
	54·29	3·43	Present....	".....	79360	Dyed. Adulterated under the Act.
	50·98	5·20	".....	".....	79361	" "
	58·56	4·80	".....	".....	79362	" "
	54·04	4·70	".....	".....	79363	" "
	55·45	4·96	None....	".....	79364	
	60·00	4·96	".....	".....	79365	
	60·89	4·24	".....	".....	79366	
	54·86	0·40	".....	".....	79367	
	64·76	6·80	Present....	".....	79368	Dyed. Adulterated under the Act.
	57·63	3·20	".....	".....	79370	" "

BULLETIN No. 392.—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.
DISTRICT OF MONTREAL—							
1918.							
Jan. 10	Sausages....	79371	Joseph Morin, 222 Lasalle Ave., Montreal.	1½ lb.	30	Vendor.....	
" 10	" "	79372	J. M. Robert, 327 Lasalle Ave., Montreal.	1½ "	27	"	
" 10	" "	79373	N. Narbonne, 397 Letourneau St., Montreal.	1½ "	23	"	
" 10	" "	79374	Cote & Lapointe, 297 Adam St., Montreal.	1½ "	33	"	
" 10	" "	79375	" " "	1½ "	27	"	
" 10	" "	79376	W. Rooney, 507 St. Catherine St., Montreal.	1½ "	38	"	
" 11	" "	79377	Ledus & Frere, 80 Villeneuve St., E., Montreal.	1½ "	20	Salsaison, Cana- dian.....	
" 11	" "	79378	A. Picard, 251 Mt. Royal Ave., E., Montreal.	1½ "	23	Vendor.....	
" 11	" "	79379	Mt. Royal People's Market, 151 Mt. Royal Ave., E., Montreal.	1½ "	30		
" 11	" "	79380	A. Archambault, 630 Mt. Royal Ave., E., Montreal.	1½ "	38	Vendors.....	
" 11	" "	79381	" " "	1½ "	23	"	
" 11	" "	79382	H. C. Ness, 700 Craig St. E., Montreal.	1½ "	45	"	

SAUSAGES.—TABLE II.

Inspector's Report. (Is not an expression of Opinion.)	Results of Analysis.				No. of Sample.	Remarks and Opinion of the Chief Analyst.
	Moisture.	Starch.	Aniline Dye.	Condition.		
<i>Concluded.</i>						
Mixed.....	p. c.	p. c.				
	63·34	4·00	Present.....	Good.....	79371	Dyed. Adulterated under the Act.
	63·75	6·20	None.....	".....	79372	
	59·14	5·60	Present....	".....	79373	Dyed. Adulterated under the Act.
Pork.....	59·34	4·80	".....	".....	79374	" "
	58·81	6·08	".....	".....	79375	" "
Beef.....	47·30	6·24	".....	".....	79376	" "
	59·28	6·40	".....	".....	79377	" "
	64·44	4·08	".....	".....	79378	" "
	58·38	4·56	".....	".....	79379	" "
Pork.....	52·91	0·64	".....	".....	79380	" "
Beef.....	56·86	6·32	".....	".....	79381	" "
	55·33	4·32	None.....	".....	79382	